

Online Collaborative Learning-Based Module for Araling Panlipunan 10

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ABSTRACT

The self-learning module (SLM) is one of the learning resource materials that aims to guide students under these modalities – Digital Modular and Online Learning. This study used a mixed-method of experimental and descriptive research to assess the status of Online Collaborative Learning-Based Module in Araling Panlipunan 10 among Grade 10 students through the pre-test of the control group (exposed to Online Individual Learning-Based Module) and experimental group (exposed to the Online Collaborative Learning-Based Module) in the third quarter topics in the Most Essential Learning Competencies (MELCs) and the students' learning experiences as to the use of the module based on the characteristics such as Social Interaction, Teamwork, and Individual Accountability. This study was conducted in Gun-ob High School during the School Year 2019-2020. The improvement of the self-learning module with online collaborative learning activities was crafted to address the students' challenges in the new normal education. This study revealed that the students have better academic performance or scores in Araling Panlipunan 10 when they work their tasks by groups with the use of Online Collaborative Learning-Based Module rather than doing it individually. The findings and conclusion indicate that it is recommended to use this modified self-learning module especially for those students enrolled in Online Learning and Digital Modular Learning Modality.

KEYWORDS: *Collaborative Learning, Online Learning, Learning Experiences, Digital Modular, Most Essential Learning Competencies (MELCs)*

THE PROBLEM AND ITS SCOPE INTRODUCTION

Rationale of the Study

The education system has now changed when the pandemic occurred last year. The teachers have a different schedule of work. Some are working from home, while others are reporting to school by following the skeletal workforce schedule. The schools, colleges, and universities have followed the mandate of the President to temporarily ban face-to-face classes.

Instead, the Department of Education offers different modalities for the students. These learning delivery modalities are Online Learning, Modular Distance Learning, Blended Learning, Radio-Based Instruction, and TV-Based Instruction. This new normal of education gives us some facts that the four

corners of a classroom have been turned into a virtual classroom, and the activities on face-to-face classes have been turned into synchronous/asynchronous modes.

One of the learning modalities that are common to most schools is Modular Distance Learning. The self-learning modules made by the teachers in the Department of Education (DepEd) are now based on the MELCs or Most Essential Learning Competencies. These may be distributed through printed, which will be produced and distributed to the parents, or through digital means, which will be posted online through the respective Facebook pages of each subject, Google Classroom, or Google drive.

Students are still adjusting to this learning modality. There are 8-9 modules every quarter and they must be distributed to the students every week. The students

How to cite this paper: Stiffany Ruth B. Montejo "Online Collaborative Learning-Based Module for Araling Panlipunan 10" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-6, October 2022, pp.1593-1613, URL: www.ijtsrd.com/papers/ijtsrd52014.pdf



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study and put effort into accomplishing the activities written in the module within the week. These activities in the self-learning modules are pre-test, learning tasks, multiple-choice type of tests, performance-based activities using online platforms, post-test, and additional activities.

However, most of the modules contain individual tasks rather than group or collaborative activities. Activities in the self-learning modules should not only focus on this but must also integrate collaborative activities. Access to education entails having access to a diverse learning environment that allows for interaction and connection. Students can participate in interactive and collaborative activities with their peers in a quality learning environment, which has been proved to improve learning outcomes, including the development of higher order thinking skills (Brindley et al., 2009).

To address the students' needs and difficulties, this researcher believes that the Online Collaborative Learning-Based Module may be one of the learning resource materials for Araling Panlipunan. With this learning material, students may perform better and be motivated to study and learn more.

Theoretical Background

This research assumed that the Online Collaborative Learning-Based Module is effective in teaching Araling Panlipunan 10 in the new normal education.

This study is anchored and supported by the Social Learning Theory by Albert Bandura.

Social Learning Theory. This theory states that every individual learns through his/her interactions and communications with others. Learning occurs as a result of students' interactions with their peers and teachers. When students work their tasks and study, they can easily acquire and expand their knowledge through the help of their peers or classmates. Despite dealing with our current situation, students strive to reach out to their classmates and ask for ideas and insights in answering their modules through social media. Students can work on their tasks diligently and answer the learning activities through interaction and collaboration with their classmates.

Understanding how people learn in social situations is aided by social learning theories. The instruction that supports social learning occurs when the students work together on a task and develop skills across the curriculum. Teachers choose meaningful and challenging tasks for the students to work that promotes deeper learning. Instructional tactics that foster the sharing of expert knowledge in which students collaborate to complete learning objectives, communicate their results and ideas, and perform or complete a task or project, result in the formation of a collaborative group of learners.

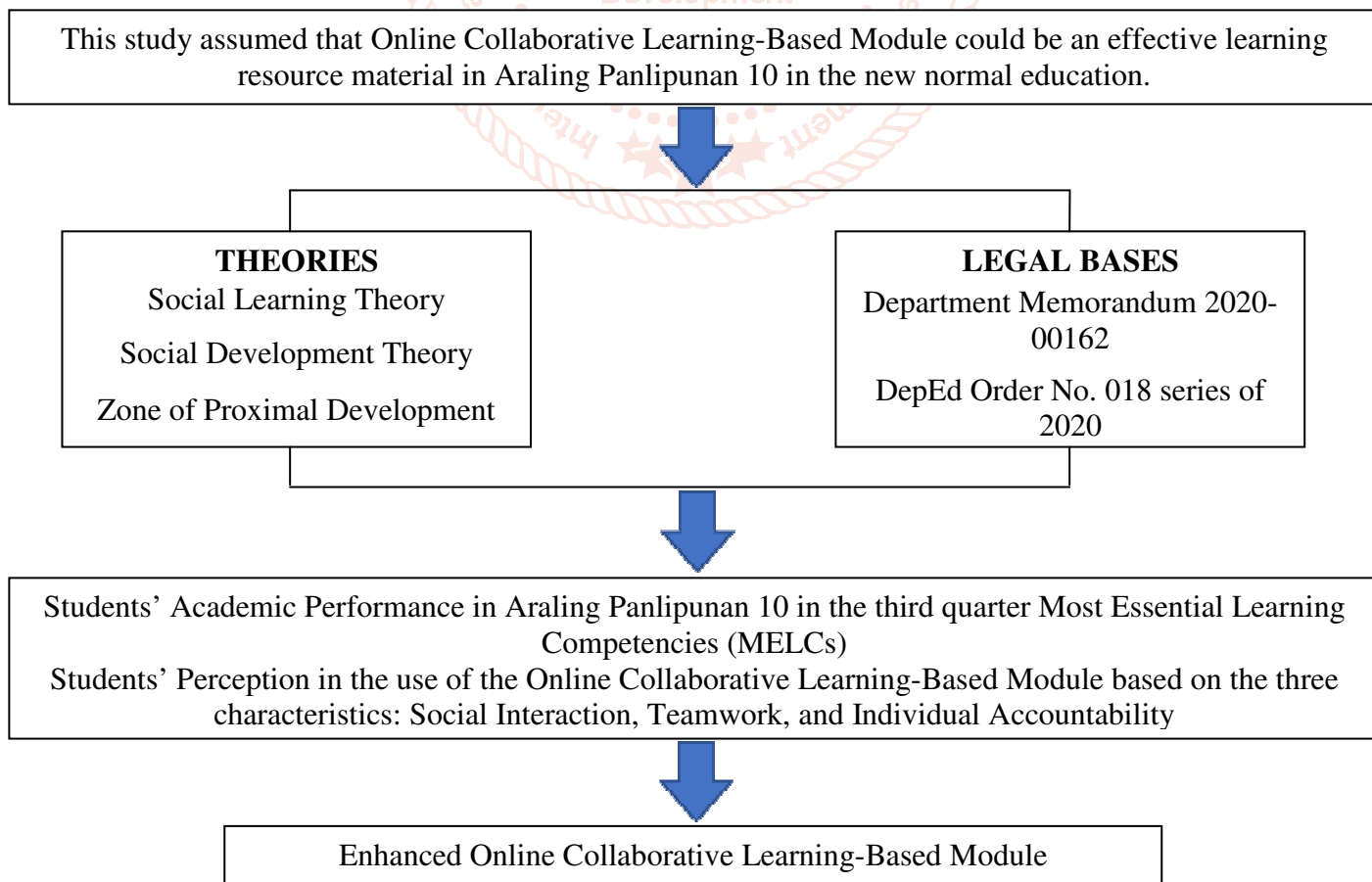


Figure 1: A Schematic Presentation of the Theoretical Background of the Study

Theories of *Zone of Proximal Development* and *Social Development Theory* of Lev Vygotsky also served as anchors and foundations in this study. The Department of Education memorandums and orders such as *Department Memorandum 2020-00162* and *DepEd Order No. 018 series of 2020* are also taken as legal bases in this study.

The *Department Memorandum 2020-00162* or “*Policy Guidelines on the Implementation of Learning Delivery Modalities for the Formal Education*” is one of the department’s directives in addressing the modalities to be offered in the schools during the COVID-19 Pandemic. Descriptions and considerations for each learning modality are stated in Appendix B of the memorandum such as Modular Distance Learning specifically in Digital Modular Distance Learning (DMDL) and Online Distance Learning. Self-Learning Modules (SLMs) will be the backbone distance learning mechanism to accompany textbooks, complemented by other distance learning modalities such as online, according to DepEd Order No. 018 series of 2020.

Collaborative Learning is one of the strategies which are currently used as the world of education adapts to its new normal of teaching. One of the learning materials useful in learning Araling Panlipunan could be an Online Collaborative Learning-based Module. This is a self-learning module which includes collaborative learning activities and tasks that suit different groups of learners. Collaborative Learning as an educational approach opens the eyes of communication in a self-learning module.

Through student-to-student interaction, the tasks may not be difficult to accomplish compared to doing it individually, as students may collaborate with their peers through their own ideas, insights, and discovery. As for the fact that they can learn from each other, they can also grow as an individual and as a team. This approach can help them identify their strengths and weaknesses as a student and as a group in dealing with their study habits and learning styles despite the changes of our education system.

Collaborative Learning Method (CLM) helps learners boost their self-confidence and motivation towards learning the task together with their classmates. It also helps learners gain additional knowledge and improve their habits. This method concerns students’ willingness on working by teams rather than working individually. They prefer to do it by groups as they can share each other’s insights and thoughts, and achieve or target their goals in the learning task. The premise that learning with others is better than studying alone is at the heart of collaborative learning (Nokes-Malach et al., 2015). Collaborative learning is

an e-learning approach where students are able to socially interact with students. Students can work and accomplish the task together in order to broaden their knowledge of a particular subject and skill. Learning grounded in collaboration is rooted on structured interaction, scaffolded and facilitated by the instructor (Hernández-Sellés, et. al., 2019).

Further, the activities designed for the curriculum are child-centered. This helps the students in improving their performance in groups or working by groups. Research has indicated that learning outcomes and academic performance is increased when working in collaboration (Dixson, 2015). Students can achieve higher levels of learning and retain more information when they work in a group rather than doing it individually. It is believed that each student has their own strengths, potentials, and capabilities and once they share these to their peers, it will motivate them to accomplish the assigned tasks. These increase the perseverance of the students in achieving the best output possible in every activity (Buan, 2018).

In terms of characteristics, social interaction is the act, action, or practice of two or more people mutually oriented towards a goal or task. Students believe that interacting and communicating with their peers are very beneficial to them and useful in achieving their goals and targets in dealing with learning tasks and activities. Knowledge can be created through the interaction and collaboration of individuals. Students can also communicate with their peers and share on how to do the learning task and how to utilize the self-learning module. Each student may suggest, inform, and recommend on what is best for their group. They may agree to divide and assign the process questions of the performance task. Collaborative learning is sustained in group interaction, as a means to promote socialized learning, involving cognitive, social, and teaching presence (Hernández-Sellés, et. al., 2019).

Teamwork in a group is a must especially in doing performance-based activities. It develops the skills of the students in Online Collaborative Learning. Students who work in groups have a higher chance on reaching an excellent academic performance at school. Through these skills, they can interact and learn to cooperate with their group members in terms of agreed plans in accomplishing the given tasks. The more the activities are collaborative, the more the students are interested and motivated to learn. The group members must always have mutual understanding, negotiation, and take responsibility in doing a task. It also assisted the team to comprehend the importance of teamwork and created awareness

about team dynamics and teamwork skills (Bhat, 2020).

Additionally, individual accountability refers to the concept that each person is responsible for his or her own performance and learning. Students can adjust and take responsibilities if the tasks need collaboration. By performing the task and activities, they feel secure as they invest their time, effort, and trust to their peers. Other members of the group also investigate and discuss shared viewpoints. The worth of these viewpoints is generated in a collaborative setting where all group members share cognitive responsibilities. Opinions are presented as a group in the context of literature and examples, and knowledge structures are built from existing opinions in the environment during the process (Yücel, Ümmühan Avcı; Usluel, Yasemin Koçak, 2016). The members of the group choose their team leader that will assign the different roles and functions to accomplish the task.

High study engagement reflects a strong goal orientation and focus on learning activities (Bakker, Sanz Vergel, & Kuntze, 2015), including collaborative work in groups; therefore, the weeks in which students are more engaged with their study are very likely to be the weeks in which they are also more identified with their collaborative group (Curşeu et al, 2020). Students' engagement also affects their academic performance as they are likely to perform in groups rather than working the learning task alone.

Integrating Collaborative Learning in a self-learning module is a need especially that blended learning or online learning are currently offered. With Collaborative Learning, it is assumed that when students collaborate, positive outcomes may result. Through interaction with others, people can construct artefacts. It is achieved through a predominantly social constructivist learning approach whereby collaboration is essential to create a series of authentic learning artefacts...It is assumed in social constructivism that learners possess varying levels of prior knowledge (Yates, 2018).

In today's new normal, the use of technology puts more emphasis to the lives of the people especially for the students. Through ICT, the new normal education has been realized and a lot of different modalities have been offered and implemented. One of the modalities that is currently offered is the Online Learning. This covers the synchronous classes or asynchronous (through Digital Modular Learning). The activities provided by the teachers do not only focus more on the traditional ones as they must meet the competencies and the modalities, which consequently, students have more chance to

collaborate with their peers as online collaboration is given more focus on the activities. This can also develop the students' skills such as innovative skills, information and life skills which are significant to their personal lives.

In this present time, students are currently adjusting to being independent in terms of answering the modules themselves since the face-to-face classes are temporarily held. As a result of this manner, the modules and the activities are repetitive and cannot meet the needs of the students especially those enrolled in an online or digital learning modality. Through clicking the google form links, online application links and the like, they can already answer and learn from the collaborative learning activities written in the module.

The use of Online Collaborative Learning-Based Module has a great impact especially for the students who learn actively with the use of technology. The e-learning environment allows for the creation of a self-directed learning tool which can then be completed at the learner's own pace. These online modules can be of great help in improving students' academic performance especially when Collaborative Learning takes place in the given activities. This can also enhance the activities in line with the Most Essential Learning Competencies (MELCs) in the Department of Education. Additionally, e-learning modules can be easily integrated into most curricula to support improved learning outcomes (Kowitlawakul et al., 2017)

Through collaborative learning, teachers can also think of different ways to achieve effective group engagement and activities in class. A teacher's role is to design opportunities for independent learning and act as a facilitator supporting collaborative learning activities (Järvenoja et al., 2020). Thus, the collaborative activities integrated in the self-learning modules in the Distance Learning Modality or Digital Learning Modality are significant in helping the learners' performance in school. In an online learning environment, learners should be able to engage with other users and moderators. As a result, authentic assignments and group work should be included in the design of the online learning environment to encourage learners to connect with other members and moderators (Zhang et al., 2017).

Moreover, collaborative learning activities in asynchronous e-learning environment is necessary as it also enhance the different skills of a student. Their skills may be honed when they are grouped. The teamwork skills and social skills are the skills students need to achieve when answering an Online Collaborative Learning-Based Module. The ability to

share ideas, insights and different opinions in a collaborative and social way can be a good channel for the students to improve their academic performance despite the pandemic. However, there is a gap in the research regarding the activities in the self-learning modules that are not aligned with some of the learning modalities such as Online Learning and Digital Modular Learning.

The Most Essential Learning Competencies (MELCs) pertain to the learning competencies that serve as primary reference of all schools, Schools Divisions and Regional Offices under the Department of Education. There are four competencies in the 3rd grading in Araling Panlipunan 10 which are: 1) natatalakay ang mga uri ng kasarian (gender) at sex at gender roles sa iba't ibang bahagi ng daigdig (discuss gender and sex and gender roles in the different parts of the world), 2) nasusuri ang diskriminasyon sa kababaihan; kalalakihan at LGBT (Lesbian, Gay, Bi – sexual, Transgender) (examines discrimination against women; men and LGBT (Lesbian, Gay, Bi-sexual, Transgender), 3) napahahalagahan ang tugon ng pamahalaan at mamamayan Pilipinas sa mga isyu ng karahasan at diskriminasyon (appreciate the response of the Philippine government and people to issues of violence and discrimination) and 4) nakagagawa ng hakbang na nagsusulong ng pagtanggap at paggalang sa kasarian na nagtataguyod ng pagkakapantay-pantay ng tao bilang kasapi ng pamayanan (takes action that promotes acceptance and respect for gender that promotes human equality as a member of the community). These competencies are found in the curriculum guide and have been used in crafting the self-learning module and its activities.

A lot of students have encountered difficulties in answering the self-learning module. First, the module itself has traditional activities which only focus more on individual task such as answering essays and process questions. Second, the module does not meet the modality which is Online Learning or Digital Learning. Consequently, the students have lost their motivation in answering since the given activities are already repetitive and may lead them to low scores and performance. Self-regulated e-learning modules are a novel teaching method that can help students get better results (R.M. Logan et al, 2020).

The experience of the researcher leads to the problem of this study which is most of the students get low scores in written work and performance task resulting in low performance and diminished interest. The addition of an e-learning module to traditional learning methods can foster a safe learning environment for students while increasing their own self-efficacy, self-reflection, motivation to learn, and

the acquisition of lifelong learning strategies (Chen et al., 2019; Moon & Hye, 2019; Qalehsari et al., 2017).

Summarily, Online Collaborative Learning-Based Module is one of the effective learning resource materials that a teacher may use to improve students' level of academic performance in Araling Panlipunan 10.

THE PROBLEM

Statement of the Problem

This research assessed the status of Online Collaborative Learning-Based Module in the teaching of Araling Panlipunan 10 (Kontemporaryung Isyu) to Grade 10 Students at Gun-ob High School, Gun-ob Lapu-Lapu City for the Academic Year 2020-2021 as basis for Enhanced Online Collaborative Learning-Based Module.

Specifically, this study answered the following sub-problems:

1. What are the pre-test scores of Grade 10 students exposed to the Online Individual Learning-Based Module as control group and to the Online Collaborative Learning-based module as experimental group in the following third quarter topics based on the Most Essential Learning Competencies (MELCs):
 - 1.1. natatalakay ang mga uri ng kasarian (gender) at sex at gender roles sa iba't ibang bahagi ng daigdig,
 - 1.2. nasusuri ang diskriminasyon sa kababaihan; kalalakihan at LGBT (Lesbian, Gay, Bi – sexual, Transgender),
 - 1.3. napahahalagahan ang tugon ng pamahalaan at mamamayan Pilipinas sa mga isyu ng karahasan at diskriminasyon and
 - 1.4. nakagagawa ng hakbang na nagsusulong ng pagtanggap at paggalang sa kasarian na nagtataguyod ng pagkakapantay-pantay ng tao bilang kasapi ng pamayanan?
2. What are the post-test scores of the students from the control group and the experimental group based on the above-mentioned MELCs?
3. Are the significant differences in the pre-test and post-test scores of students from the control and experimental groups based on the above-mentioned MELCs?
4. Is there a significant mean gain difference between the post-test scores of the control group and the experimental group of students on the afore-mentioned topics and MELCs?
5. What are the students' perception in the use of the Online Collaborative Learning-Based Module based on the following characteristics:

- 5.1. social interaction,
- 5.2. teamwork,
- 5.3. individual accountability?
6. Based on the findings, what enhancement in the online learning module can be realized?

Significance of the Study

This study was conducted and expected to have a significant impact in several ways to the following:

Department of Education (Division Office). This study will be gainful to the Division Office, especially for the Learning Resources Management and Development System (LRMDS) department as they can endorse this Online Collaborative Learning-Based Module that can be used in some schools.

District Supervisor of Araling Panlipunan. This study will also be beneficial to the District Supervisor as he/she will coordinate with all school heads under his/her district and encourage the teachers to use Online Collaborative Learning Based-Module especially for those who are under the modality of Online/Digital Learning.

School Heads. This study will be helpful to the school heads as they can encourage teachers to improvise the Self-Learning Module into an Online Collaborative Learning-Based Module as a learning resource material for improving the performance of the students under Online and Digital Learning Modality.

Araling Panlipunan Teachers. They are the facilitators of learning in this new normal education. With the use of the Online Collaborative Learning-Based Module, it will be easier for them to teach the subject and guide the students despite the challenges of the pandemic.

Students. They are the beneficiaries of the study and could learn more about the subject through the online collaborative learning activities in the self-learning module. This will be especially useful for those students who are enrolled in Online and Digital Learning Modality.

Future Researchers. Despite the problems posed by the epidemic, this study will serve as a guide for them. They can use this learning resource material as a reference in the future to assess learners' needs in online learning and digital modular learning.

RESEARCH METHODOLOGY

This section presents the research design, flow of the study, environment, respondents, instruments, data gathering procedures, statistical treatment, and scoring procedure.

Design

This study employed a mixed method of experimental and descriptive research. This research aimed to describe the use of the Online Collaborative Learning-Based Module in Araling Panlipunan 10. It was experimental in nature since the students were assessed through the pre-test (exposed to the Online Individual Collaborative Learning-Based Module) and post-test (exposed to the Online Collaborative Learning-Based Module).

On the other hand, the descriptive side of this research comprised the level of agreement of the students' perception in the use of the Online Collaborative Learning-Based Module in the following characteristics: social interaction, teamwork, and individual accountability.

Flow of the Study

In the IPO model, the flow of the study was recapitulated in Figure 2. The input of the study included the pre-test scores of Grade 10 students exposed to the Online Individual Learning-Based Module as control group and to the Online Collaborative Learning-based module as Experimental group specified in the third quarter MELCs and the students' perception.

The process started with a transmittal letter with the approval from the Schools Divisions Superintendent and School Principal in Gun-ob High School before data gathering to acquire pertinent findings and conclusions. The researcher communicated and gave the google form link to the respondents. The processing of the data and statistical analysis were presented through tables.

The research output was the Enhanced Online Collaborative Learning-Based Module in line with the third quarter Most Essential Learning Competencies (MELCs).

INPUT PROCESS OUTPUT

Environment

Gun-ob High School formerly known as Gun-ob National High School, opened its doors in 1996 as a night high school with only four teachers and a handful of pupils. The new classrooms are part of philanthropist Ramon Chiu's donation of 21 classrooms to the Gun-ob High School, one of the many educational institutions in Central Visayas that have benefited from Mr. Chiu's efforts. Aside from the classrooms, the turnover ceremonies include a covered court, essentially making Gun-ob High School a "full high school."

Since October 2020, Gun-ob High School offers printed and digital learning modality from Grades 7 to Grade 10 (Junior High School). The school is under

the supervision of the School Principal, Mrs. Luzviminda P. Estoya and now has 38 teachers (3 Head Teachers, 5 Master Teachers and 30 Teachers from Teacher I to III). The school has 1174 students enrolled in the School Year 2020-2021. It has also been recognized as one of the schools that performed well in the field of gymnastics over the years.

Throughout the successful and fruitful years, Gun-ob High School (GHS) has grown into one of the most prestigious schools in the Division of Lapu-Lapu City. From its humble beginnings, it has established an identity that will guide its unyielding vision - "The Culture of Excellence."



Figure 3: Location Map of the Research Environment

Respondents

This study involved two sections of Grade 10 for a total of 80 students in Gun-ob High School. In the following sections, Grade 10-SBM has 40 students and Grade 10-RAQ has 40 students. All students answered the pre-test, post-test, and their perceptions.

Table 1 Distribution of Respondents

SECTION	N	%
GRADE 10-SBM	40	50
GRADE 10-RAQ	40	50
TOTAL	80	100

Instrument

The researcher used a questionnaire modified from the Araling Panlipunan 10 Self-Learning Modules (SLMs) in the Department of Education – Division of Lapu-Lapu City as the basis of the research instrument.

Questionnaire. The first part of the questionnaire was the pre-test with 15 items for each competency and with a total of 60 items. After answering the pre-test, the students were gathered through a synchronous session for a discussion about Online Collaborative Learning and its activities. Then, the students answered the post-test which has integrated activities in each competency. Both tests were done through Google forms. The last part of the questionnaire was the perceptions based on the following characteristics such as Social Interaction, Teamwork, and Individual Accountability.

Data Gathering Procedures

A letter of approval was submitted by the researcher. conduct the study in Gun-ob School through the School Principal, Mrs. Luzviminda P. Estoya. The study was conducted for two weeks according to the preference of 2 sections in Grade 10. Each student answered the pre-test and post-test and their perception in dealing with collaborative learning activities. After collecting all data, the researcher, with the help of a statistician tabulated and tailed the survey as a basis for the completion of the study.

The data gathering was conducted from May 31 – June 19, 2021, during the third grading of the school year 2020-2021. The variables described in the study were students' academic performance through the pre-test, post-test, and their perceptions.

Treatment of Data

Sub-problems number 1 and 2 were treated using the weighted mean. Sub-problem number 3 was treated using Wilcoxon signed rank test while sub-problem number 4 was treated using Mann-Whitney U Test. Sub-problem number 5 was treated using the weighted mean.

Scoring Procedure

The scoring procedure below was used to assess the academic performance of the students before and after using the Online Collaborative Learning-based module.

Score Range	Interpretation	Verbal Description
13 - 15	Outstanding	The student performed excellently in the pre/post-test.
10 – 12	Very Satisfactory	The student performed good in the pre/post-test.
7 – 9	Satisfactory	The student performed averagely in the pre/post-test.
4 – 6	Fairly Satisfactory	The student performed fairly well in the pre/post-test.
1 – 3	Did Not Meet	The student performed Expectations poorly in the pre/post-test.

Four - Point Likert Scale was used to include four extreme options without a neutral choice. It determined the students' learning experiences in the use of the Online Collaborative Learning-based module based on the three characteristics. The descriptive attributes used are the following:

Score Range	Interpretation	Verbal Description
3.25 - 4.00	Strongly Agree	The student completely approves the statement.
2.50 - 3.24	Agree	The student approves the statement.
1.75 - 2.49	Disagree	The student disapproves the statement.
1.00 - 1.74	Strongly Disagree	The student completely disapproves the statement.

DEFINITION OF TERMS

To facilitate better understanding about the Online Collaborative Learning-Based Module for Araling Panlipunan, the operational terms are hereby defined:

Academic Performance. This refers to the students' achievement which can be measured and evaluated through their pre-test and post-test scores.

Control group. This composes of students who have done the pre-test and post-test individually.

Experimental group. This composes of students who have done the pre-test and post-test by group.

Perceptions. These are the students' purposeful realizations, understanding or conceptions while

learning and answering the collaborative learning activities. These perceptions are based on the three characteristics such as Social Interaction, Teamwork, and Individual Accountability.

Social Interaction. This involves an exchange of communication between two or more students. By interacting with one another, knowledge can be created, and students will be motivated to learn and work on their tasks.

Teamwork. This is a combined action of the students who work in groups or teams. This is efficient and effective when students learn to cooperate with their group members, have mutual understanding and take responsibility.

Individual Accountability. This pertains to assessing the quality and quantity of each members' contributions. This occurs when each student's performance is assessed, and the result of the activities and efforts made are given back to the group.

Most Essential Learning Competencies (MELCs). These pertain to the learning competencies that serve

as a primary reference of all schools, Schools Divisions and Regional Offices under the Department of Education.

Online Individual Learning-Based Module. It is a learning resource material containing collaborative learning activities that can be accessed online and done individually.

Online Collaborative Learning-Based Module. It is a learning resource material containing collaborative learning activities that can be accessed online and done by a group.

Enhancement of the Self-learning module. This pertains to the improvement/s of the self-learning module after assessing the academic performance of the students. It includes collaborative learning activities that can be accessed online and addressed the students' perception based on the survey.

Status. This pertains to the progress, usefulness, and effectiveness in the use of the Online Collaborative Learning-based Module for Araling Panlipunan 10 to Grade 10 students especially in Online and Digital Modular Learning Modality.

2. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter presented the data gathered from the academic performance based on the pre-test and post-test scores of the Grade 10 students in Araling Panlipunan 10 and the conduct of a survey questionnaire on the respondents' perception based on the three characteristics. Along with the consolidation of statistical data, this part also showcases the analysis and interpretation of the results.

THE PRE-TEST SCORES OF GRADE 10 STUDENTS IN THE CONTROL GROUP AND EXPERIMENTAL GROUP

The Department of Education emphasizes the importance of the Most Essential Learning Competencies (MELCs) in maintaining the quality and standard of education despite the changes of the modalities due to the COVID-19 pandemic. This study gathered the students' academic performance through essay type of test as the basis for pre-test that evaluated their progress.

Thus, to answer the first problem of this study, the performance of 80 Grade-10 students from the four competencies in the third quarter is presented in the succeeding table.

The first competency in the third grading of Araling Panlipunan 10 is “Natatalakay ang mga uri ng kasarian (gender) at sex at gender roles sa iba’t ibang bahagi ng daigdig.”

Table 2 Pre-test Scores of the Grade 10 Students

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	F	%	Category	f	%	Category
1-3	8	20.00	D	0	0.00	D
4-6	12	30.00	FS	13	32.50	FS
7-9	9	22.50	S	12	30.00	S
10-12	10	25.00	VS	13	32.50	VS
13-15	1	2.50	O	2	5.00	O
Mean	6.85			8.33		
Std Dev	3.15			2.68		

*Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory*

Table 2 shows the distribution of students' pre-test scores, frequency, percentage and category in the control group and experimental group towards the first competency in the third grading in Araling Panlipunan 10. Ten students had a Very Satisfactory rate with a percentage of 25.00, and 1 student got Outstanding with a percentage of 2.50. Overall, the control group of 40 students had a grand mean of 6.85 and a standard deviation of 3.15.

In the Experimental Group with 40 students, 13 students had a Very Satisfactory rate with a percentage of 32.50, and 2 students outstand with a percentage of 5.00. Overall, the experimental group of 40 students had a grand mean of 8.33 and a standard deviation of 2.68.

The fewer students who got D or *Did not meet expectations* grade in the Experimental group mean that they particularly favor working the tasks with their peers or groupmates rather than doing them individually. When working interactively with others, students learn to inquire, share ideas, clarify differences, problem-solve, and construct new understandings (Hammar, 2014).

In collaborative learning, a partner(s), for instance, can co-regulate cognitive, motivational, or emotional processes of a student(s) who may need help in relation to the group activity, or a student(s) can ask a collaborating partner(s) to co-regulate his/her own learning (Grau & Whitebread, 2012; Järvelä & Hadwin, 2013).

The second competency in the third grading of Araling Panlipunan 10 is “Nasusuri ang diskriminasyon sa kababaihan; kalalakihan at LGBT (Lesbian, Gay, Bi – sexual, Transgender).”

Table 3 Pre-test Scores of the Grade 10 Students

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	F	%	Category	f	%	Category
1-3	1	2.50	D	0	0.00	D
4-6	16	40.00	FS	11	27.50	FS
7-9	18	45.00	S	20	50.00	S
10-12	3	7.50	VS	8	20.00	VS
13-15	2	5.00	O	1	2.50	O
Mean	7.50			7.80		
Std Dev	2.62			2.35		

Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory

Table 3 demonstrates the distribution of students' pre-test scores, frequency, percentage and category in the control group and experimental group towards the second competency in the third grading in Araling Panlipunan 10. As reflected in the table in the Control Group with 40 students, three students had a Very Satisfactory rate with a percentage of 7.50, and 2 students obtained an Outstanding level with a percentage of 5.00. Overall, the control group of 40 students has a grand mean of 7.50 and a standard deviation of 2.62.

In the Experimental Group with 40 students, no students *met expectations did not meet expectations*, eight students had a Very Satisfactory rate with a percentage of 20.00, and 1 student was Outstanding with a percentage of 2.50. Overall, the experimental group of 40 students had a grand mean of 7.80 and a standard deviation of 2.35.

The results showed a favorable inclination towards better scores in the pre-test in experimental groups as most of the students got a score from 7-9 and 10-12 compared when taking it individually. Students gained higher-level reasoning, the ability to solve problems and the ability to use what they learned from one situation to the other (Taqi, 2014).

The more students are placed in groups, the more their knowledge broadens and their skills enhance. Successful collaborative learning requires an understanding of the kinds of interaction and activities that can enhance learning (Vuopala, Hyvonen, & Jarvela, 2015).

The third competency in the third grading of Araling Panlipunan 10 is “Napahahalagahan ang tugon ng pamahalaan at mamamayan Pilipinas sa mga isyu ng karahasan at diskriminasyon.”

Table 4 Pre-test Scores of the Grade 10 Students

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	f	%	Category	f	%	Category
1-3	2	5.00	D	3	7.50	D
4-6	13	32.50	FS	4	10.00	FS
7-9	15	37.50	S	18	45.00	S
10-12	8	20.00	VS	12	30.00	VS
13-15	2	5.00	O	3	7.50	O
Mean	7.85			8.48		
Std Dev	2.73			2.78		

Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory

Table 4 shows the distribution of students' pre-test scores, frequency, percentage and its category in the control group and experimental group towards the third competency in the third grading in Araling Panlipunan 10. As reflected in the table in the Control Group with 40 students, 8 students have a Very Satisfactory rate with a percentage of 20.00, and 2 students obtained an Outstanding level with a percentage of 5.00. Overall, the control group of 40 students had a grand mean of 7.85 and standard deviation of 2.73.

In the Experimental Group with 40 students, 12 students had a Very Satisfactory rate with a percentage of 30.00, and 3 students obtained an Outstanding level with a percentage of 7.50. Overall, the experimental group of 40 students had a grand mean of 8.48 and standard deviation of 2.78.

Based on the results shown above, students are more likely motivated to work with peers and groups which resulted in better performance rather than performing individually. For effective collaboration amongst students, student grouping should be a deliberate effort (McGlynn and Kozlowski, 2016). This also suggests that teachers' strategies (e.g. asking pupils to try to solve a task by themselves first, seating them in groups, assigning them group-bonding exercises, encouraging interactions and discussion among them, and regrouping them frequently) help to develop pupils' abilities to work collaboratively, think and learn together, and develop social skills (Dukuzumuremyi et al., 2018).

The fourth competency in the third grading of Araling Panlipunan 10 is “Nakagagawa ng hakbang na nagsusulong ng pagtanggap at paggalang sa kasarian na nagtataguyod ng pagkakapantay-pantay ng tao bilang kasapi ng pamayanan.”

Table 5 Pre-test Scores of the Grade 10

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	f	%	Category	f	%	Category
1-3	6	15.00	D	3	7.50	D
4-6	7	17.50	FS	8	20.00	FS
7-9	17	42.50	S	17	42.50	S
10-12	9	22.50	VS	11	27.50	VS
13-15	1	2.50	O	1	2.50	O
Mean	7.48			7.68		
Std Dev	2.81			2.71		

Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory

Table 5 unveils the distribution of students' pre-test scores, frequency, percentage and its category in the control group and experimental group towards the fourth competency in the third grading in Araling Panlipunan 10. As reflected in the table in the Control Group with 40 students, 9 students obtained a Very Satisfactory rate with a percentage of 22.50, and 1 student got Outstanding with a percentage of 2.50. Overall, the control group of 40 students had a grand mean of 7.48 and standard deviation of 2.81.

In the Experimental Group with 40 students, 3 students did not meet expectations with a percentage of 7.50, 11 students obtained a Very Satisfactory rate with a percentage of 27.50, and 1 student got Outstanding with a percentage of 2.50. Overall, the experimental group of 40 students had a grand mean of 7.68 and standard deviation of 2.71.

The salient findings show that most of the Grade 10 students attain higher scores in experimental group from the score range of 3-5, 7-9 and 10-12. The reason for this better performance could be the students' motivation while answering the pre-test. Some students who have low motivation in answering individual tests perform better when doing it by group. While this may be tough for kids who are innately goal-oriented, it can help students who are less motivated to achieve in a group situation (Costley, 2018).

Aside from students' increased motivation, students can also acquire skills about positive interdependence, individual accountability, face to face promoted interaction and group processing (Forslund Frykedal & Hammar Chiriac, 2018).

THE POST-TEST SCORES OF GRADE 10 STUDENTS IN THE CONTROL GROUP AND EXPERIMENTAL GROUP

The Department of Education emphasizes the importance of the Most Essential Learning Competencies (MELCs) in maintaining the quality and standard of education despite the changes of the modalities due to the COVID-19 pandemic. This study gathered the students' academic performance through short video presentations as the basis for post-test that evaluated their progress.

Thus, to answer the second problem of this study, the performance of 80 Grade-10 students from the four competencies in the third quarter is presented in the table that follows:

The first competency in the third grading of Araling Panlipunan 10 is “Natatalakay ang mga uri ng kasarian (gender) at sex at gender roles sa iba’t ibang bahagi ng daigdig.”

Table 6 Post-test Scores of the Grade 10 Students

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	F	%	Category	f	%	Category
1-3	0	0.00	D	0	0.00	D
4-6	0	0.00	FS	0	0.00	FS
7-9	5	12.50	S	0	0.00	S
10-12	23	57.50	VS	20	50.00	VS
13-15	12	30.00	O	20	50.00	O
Mean	11.50			12.50		
Std Dev	1.84			1.50		

*Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory*

Table 6 demonstrates the distribution of students' post-test scores, frequency, percentage and its category in the control group and experimental group towards the first competency in the third grading in Araling Panlipunan 10. As reflected in the table in the Control Group with 40 students, 23 students obtained a Very Satisfactory rate with a percentage of 57.50, and 12 students got Outstanding with a percentage of 30.00. Overall, the control group of 40 students had a grand mean of 11.50 and standard deviation of 1.84.

In the Experimental Group with 40 students, 20 students had a Very Satisfactory rate with a percentage of 50.00, and 20 students got Outstanding with a percentage of 50.00. Overall, the experimental group of 40 students had a grand mean of 12.50 and standard deviation of 1.50.

The outputs of the post-test were the short video presentations where students took it individually (control group) or by group (experimental group). Group online video presentations can help the learners to be more creative and perform better than doing it alone. This will enhance their creativity, innovative and collaborative skills while learning. E-learning settings offer a wealth of potential chances for high-quality learner-to-learner collaboration (Costley, 2018). Students benefit from groupwork because it inspires them, provides peer training, allows them to consider many views on a topic, and encourages them to be more creative (Rezaei, 2018).

The second competency in the third grading of Araling Panlipunan 10 is “Nasusuri ang diskriminasyon sa kababaihan; kalalakihan at LGBT (Lesbian, Gay, Bi – sexual, Transgender).”

Table 7 Post-test Scores of the Grade 10 Students

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	F	%	Category	f	%	Category
1-3	0	0.00	D	0	0.00	D
4-6	0	0.00	FS	0	0.00	FS
7-9	8	20.00	S	0	0.00	S
10-12	25	62.50	VS	8	20.00	VS
13-15	7	17.50	O	32	80.00	O
Mean	11.00			13.30		
Std Dev	1.82			1.35		

*Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory*

Table 7 displays the distribution of students' post-test scores, frequency, percentage and its category in the control group and experimental group towards the second competency in the third grading in Araling Panlipunan 10. As reflected in the table in the Control Group with 40 students, 25 students had a Very Satisfactory rate with a percentage of 62.50, and 7 students got Outstanding with a percentage of 17.50. Overall, the control group of 40 students had a grand mean of 11.00 and standard deviation of 1.82.

In the Experimental Group with 40 students, 8 students had a Very Satisfactory rate with a percentage of 20.00, and 32 students got Outstanding with a percentage of 80.00. Overall, the experimental group of 40 students had a grand mean of 13.30 and standard deviation of 1.35.

Based on the results above, 32 students or 80% in the experimental group got an Outstanding Grade compared to the control group. Most of the students preferred doing the post-test by group which, consequently, lead them to participate more by sharing ideas and insights to their groupmates without any hesitation and sometimes, by leading the group on accomplishing the task. Allowing students to participate in collaborative learning provides them with the tools they need to gain confidence and expand their abilities and interests in more difficult subjects, so assisting them in becoming more academically successful (Backer, 2018).

The third competency in the third grading of Araling Panlipunan 10 is “Napahahalagahan ang tugon ng pamahalaan at mamamayan Pilipinas sa mga isyu ng karahasan at diskriminasyon.”

Table 8 Post-test Scores of the Grade 10 Students

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	f	%	Category	f	%	Category
1-3	0	0.00	D	0	0.00	D
4-6	0	0.00	FS	0	0.00	FS
7-9	3	7.50	S	0	0.00	S
10-12	29	72.50	VS	4	10.00	VS
13-15	8	20.00	O	36	90.00	O
Mean	11.38			13.30		
Std Dev	1.73			1.10		

*Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory*

Table 8 presents the distribution of students' post-test scores, frequency, percentage and its category in the control group and experimental group towards the third competency in the third grading in Araling Panlipunan 10. As reflected in the table in the Control Group with 40 students, 29 students had a Very Satisfactory rate with a percentage of 72.50, and 8 students got Outstanding with a percentage of 20.00. Overall, the control group of 40 students had a grand mean of 11.38 and standard deviation of 1.73.

In the Experimental Group with 40 students, 4 students had a Very Satisfactory rate with a percentage of 10.00, and 36 students got Outstanding with a percentage of 90.00. Overall, the experimental group of 40 students had a grand mean of 13.30 and standard deviation of 1.10.

The fewer students who got D or *Did not meet expectations*, F or *Fairly Satisfactory* and S or *Satisfactory* grade in the Experimental group mean that students particularly preferred and enjoyed doing the tasks with their classmates especially when the tasks involve online collaboration and social interaction (e.g., short video presentation). Pupils' competencies develop through their interactional collaborative activities, such as exploration, projects, play, and games. This learning model has been conceptualised as integrative (Dillenbourg & Jermann, 2010).

Some of the students lost interest and did not enjoy while working on their activities or tests. Thus, they did not enjoy learning the subject and became lazy and uninterested most of the time. Attention to group processing may raise learners' awareness and lead to more productive interactions and higher work quality for learners who have lower levels of involvement in general education (Moore, 2019).

The fourth competency in the third grading of Araling Panlipunan 10 is “Nakagagawa ng hakbang na nagsusulong ng pagtanggap at paggalang sa kasarian na nagtataguyod ng pagkakapantay-pantay ng tao bilang kasapi ng pamayanan.”

Table 9 Post-test Scores of the Grade 10 Students

Score Range	Control Group (n=40)			Experimental Group (n=40)		
	f	%	Category	f	%	Category
1-3	0	0.00	D	0	0.00	D
4-6	0	0.00	FS	0	0.00	FS
7-9	2	5.00	S	0	0.00	S
10-12	27	67.50	VS	16	40.00	VS
13-15	11	27.50	O	24	60.00	O
Mean	11.48			13.00		
Std Dev	1.72			1.27		

Legend: D- Did Not Meet Expectations S- Satisfactory O- Outstanding
FS- Fairly Satisfactory VS- Very Satisfactory

Table 9 shows the distribution of students' post-test scores, frequency, percentage and its category in the control group and experimental group towards the fourth competency in the third grading in Araling Panlipunan 10. As reflected in the table in the Control Group with 40 students, 27 students had a Very Satisfactory rate with a percentage of 67.50, and 11 students got Outstanding with a percentage of 27.50. Overall, the control group of 40 students had a grand mean of 11.48 and standard deviation of 1.72.

In the Experimental Group with 40 students, 16 students had a Very Satisfactory rate with a percentage of 40.00, and 24 students got Outstanding with a percentage of 60.00. Overall, the experimental group of 40 students had a grand mean of 13.00 and standard deviation of 1.27.

The results showed a favorable inclination towards better scores in the post-test in experimental groups as most of the students got a score from 10-12 and 13-15 with an equivalent rating of *Very Satisfactory* (VS) and *Outstanding* (O) respectively compared when taking it individually.

Learning and doing a task or activity in a group depends on the consensus and agreement among the group members. According to a recent systematic Sun, Siklander, and Ruokamo (2018), scaffolding, collaboration and perceived ease of use are the most efficient factors for triggering pupils' interest, which is important to take into account in the inclusive classroom as well.

The group leader must lead his/her members, divide tasks, and work well by appreciating their contributions. When students have well-structured group work experiences or are educated in group work practices, the effects of learning in groups are significantly improved (Hattie, 2009).

SIGNIFICANT DIFFERENCES BETWEEN THE PRE-TEST AND THE POST-TEST SCORES OF STUDENTS FROM THE CONTROL AND EXPERIMENTAL GROUPS

The statistical treatment utilized was the significance of p-value = 0.05. Thus, to answer the third problem of this study, the significant difference between the pre-test and post-test scores of students from the control and experimental groups based on the third quarter Most Essential Learning Competencies is presented in the table that follows:

Table 10 Significant Differences between the Pre-test and the Post-test Scores of Students from the Control and the Experimental Group based on the Most Essential Learning Competencies (MELCs)

Respondents	Scores		Scores		p-value	Decision	Interpretation
	Pre-test		Post-test				
	Mean	Std Dev	Mean	Std Dev			
Control Group (n=40)	29.68	10.06	45.35	5.97	0.0000*	Reject Ho	Significant
Experimental Group (n=40)	32.28	8.51	52.10	3.30	0.0000*	Reject Ho	Significant

*significant when p-value <0.05

Table 10 unveils the statistical treatment of the data gathered from the pre-test and post-test scores from the control and the experimental group based on third grading Most Essential Learning Competencies (MELCs) using the Wilcoxon signed rank test. During the conduct of pre-test, the control group with 40 respondents had a grand mean of 29.68 and a standard deviation of 10.06; while for the experimental group, it gained a grand mean of 32.28 and a standard deviation of 8.51. During the conduct of post-test. The control group with 40 respondents had a grand mean of 45.35 and a standard deviation of 5.97; while for the experimental group, it gained a grand mean of 52.10 and a standard deviation of 3.30. The interpretation of the results above is significant. Further, the P-value is 0.0000 is lesser than the standard level P-value of 0.05.

This result signifies that the null hypothesis is rejected in both groups. Hence, there was a significant difference in the pre-test and post-test scores of students from the control and experimental groups based on the Most Essential Learning Competencies (MELCs).

Further, the significant difference in the pre-test and post-test scores of students from the control and experimental groups based on the MELCs has an effect to students' active participation, interaction, and active engagement in learning. Engagement in an e-learning environment is generally favorable for students, albeit the environment must be balanced and the learner's social and cognitive growth must be taken into account (Costley & Lange, 2016a; Costley & Lange, 2016b).

The use of Online Collaborative Learning-based module and the learning activities has also built confidence, honed their skillset, and broadened their knowledge. This can also develop learners' communication, collaboration, creativity, and critical thinking skills. Pupils can learn social and personal responsibility, skills about collaboration, skills about working in teams or in small groups, interpersonal (Dede, 2010; Forslund Frykedal & Hammar Chiriatic, 2018).

Thus, the significant difference of the two variables in this study asserts the importance of the application of Online Collaborative Based-Learning Module.

SIGNIFICANT MEAN GAIN DIFFERENCE IN THE POST-TEST SCORES OF THE CONTROL AND EXPERIMENTAL GROUPS

The statistical treatment utilized was the significance of p-value = 0.05. Thus, to answer the fourth problem of this study, the significant mean gain difference of the post-test scores in the control and experimental groups of students and the third quarter Most Essential Learning Competencies is presented in the table that follows:

Table 11 Significant Mean Gain Difference in the Post-test Scores of the Control and the Experimental Groups of students and Most Essential Learning Competencies (MELCs)

Respondents	Scores		p-value	Decision	Interpretation
	Post-test				
	Mean	Std Dev			
Control Group (n=40)	45.35	5.97	0.0000	Reject Ho	Significant
Experimental Group (n=40)	52.1	3.30			

*significant when p-value <0.05

Table 11 displays the statistical treatment of the data gathered between the post-test scores of the control and the experimental groups based on third grading Most Essential Learning Competencies (MELCs) using the Mann-Whitney U Test. During the conduct of post-test, the control group with 40 respondents had a grand mean of 45.35 and a standard deviation of 5.97 while the experimental group had a grand mean of 52.1 and a standard deviation of 3.30. The interpretation of the results above is significant. Further, the P-value is 0.0000 is lesser than the standard level P-value of 0.05.

Hence, this result signifies that the null hypothesis is rejected in both groups. Thus, there was a significant mean gain difference between the post-test scores of students of the control and experimental groups based on the Most Essential Learning Competencies (MELCs).

The significant mean gain difference between the post-test scores of students of the control and experimental groups based on the MELCs has a great effect to students' success in doing the tasks and activities by group (experimental) compared to doing it alone or individually (control group). The effectiveness of having collaborative or grouped activities has led to more motivation, active participation, and a better academic performance to the learners. Group work and study groups are ubiquitous and have been shown to benefit students in terms of their performance and learning (Chen & Yang, 2019).

These online grouped activities are more effective in carrying out the subject's objectives and competencies especially in the Online and Digital Modular Learning Modality. Digital technologies can support pupils' group interaction activities; engagement with work (Dukuzumuremyi et al., 2018).

Thus, the significant mean gain difference of the two variables in this study asserts the importance of the application of Online Collaborative Based-Learning Module.

STUDENTS' PERCEPTION IN THE USE OF ONLINE COLLABORATIVE LEARNING-BASED MODULE

These are the students' purposeful realization, understanding or conception while learning and answering the Collaborative Learning activities. These perceptions are based on the three characteristics such as Social Interaction, Teamwork, and Individual Accountability. Each characteristic has 10 criterion items. This study gathered the students' perception through a Likert scale with its corresponding level of agreement: 4 – Strongly Agree, 3 – Agree, 2 – Disagree and 1 – Strongly Disagree.

Thus, to answer the fifth problem of this study, the perception of 80 Grade-10 students based on the three characteristics are presented in the preceding tables.

Social Interaction in the use of the Collaborative Learning-Based Module

Table 12 Students' Perception

Criterion Items	WD	VD
I feel motivated when my classmates and I interact with each other.	3.39	SA
I follow a lot of my classmates' opinions, advices and insights.	3.31	SA
I share my ideas and learnings with my classmates all the time.	3.33	SA
I prefer to work on a task through a phone call with my classmate.	3.24	A
My groupmates and I assign tasks and roles through our group chat.	3.50	SA
I feel happy if our group leader asks for our suggestions and reactions before doing the task.	3.40	SA
If I have some difficulties answering the activities, I try to contact my classmates via Facebook messenger or the like.	3.35	SA
I can comprehend more of the activities if my classmates share about the lesson from time to time.	3.35	SA
I can learn more if my classmates and I share ideas on complex topics.	3.46	SA
I can expand my knowledge more if my classmates share their insights, personal experiences and ideas related to the topic.	3.44	SA
General Weighted Mean	3.38	SA

Legend: 4- Strongly Agree 2- Disagree 3- Agree 1- Strongly Disagree

Table 12 shows the results of the students' perception in the use of Online Collaborative Learning-based Module in Araling Panlipunan through Social Interaction. Each criterion item displays its *WD* or *Weighted Mean* and *VD* or *Verbal Description*. Nine items got a rating of 4 or its equivalent level of agreement of *Strongly Agree*. Only item number four got a weighted mean of 3.24 with its equivalent verbal description of *Agree*.

Students' perception through Social Interaction have a huge effect in terms of accomplishing grouped activities. Students who interact more with their peers, classmates and even teachers for guide and instruction could help them excel in their studies. Connecting and communicating with peers in the new normal education help students to achieve their goals despite of the current situation and modality that has been offered. For instance, the 'relational' approach developed by Kutnick and his colleagues (Kutnick & Blatchford, 2014), which aims to improve students' social, communication and advanced group working skills could prove fruitful.

The more pupils interact with one another, the more their abilities and knowledge grow. Additionally, interactivity with teachers, peers, and online knowledge sharing behaviour has seen a significant impact on students' engagement which consequently has a significant impact on students' academic performance (Ansari et al., 2020).

Teamwork in the use of the Collaborative Learning-Based Module**Table 13 Students' Perception**

Criterion Items	WD	VD
My groupmates and I display high levels of cooperation and mutual support in doing a task.	3.31	SA
My groupmates and I set and meet challenging goals in doing a task.	3.34	SA
Everyone values what each member contributes to the group in accomplishing a learning task.	3.39	SA
My groupmates and I avoid duplication of effort to maximize time and set deadlines for every task.	3.43	SA
My groupmates and I have a strong sense of accomplishment relative to our learning tasks.	3.41	SA
My groupmates and I maintain a can-do approach when encountering frustrating situations while doing our learning tasks.	3.28	SA
My groupmates and I can work through differences of opinion in planning a task without damaging our group's relationship.	3.43	SA
My groupmates and I make sure our learning tasks are accomplished on time.	3.43	SA
My groupmates and I appreciate one another's unique capabilities and contributions in doing a task.	3.43	SA
My groupmates and I plan ahead of time and distribute the tasks equally.	3.45	SA
General Weighted Mean	3.39	SA

Legend: 4- Strongly Agree 2- Disagree 3- Agree 1- Strongly Disagree

Table 13 unveils the results of the students' perception in the use of Online Collaborative Learning-based Module in Araling Panlipunan through Teamwork. Each criterion item displays its *WD* or *Weighted Mean* and *VD* or *Verbal Description*. All criterion items got a rating of 4 or its equivalent level of agreement of *Strongly Agree*.

Students' perception of Teamwork have a huge effect in terms of accomplishing grouped activities. When teamwork is present in a group, the members will be more encouraged, inspired, and motivated to participate and cooperate in accomplishing the activities. It is also recognised that collaboration is a challenging process and its success depends on effective use of self and social forms of regulation of learning (Järvelä et al., 2016).

In answering these criterion items, the respondents realized that there is more to teamwork. It is when each member contributes to the group, members work with a sense of urgency especially when given a task and sets a goal or target with planning among the group members. When group interactions are heavily structured to attain specified learning goals and each learner is responsible for a portion of the task, these techniques are classified as cooperative (Zambrano et al., 2019).

Individual Accountability in the use of the Collaborative Learning-Based Module**Table 14 Students' Perception**

Criterion Items	WD	VD
I work with a sense of urgency if I am assigned to do a task in a group.	3.53	SA
I feel responsible when we cannot accomplish or finish a task on time.	3.19	A
I give our group my full support and cooperation in answering the module's collaborative learning activities.	3.41	SA
I actively participate in our group for us to successfully finish and submit the given task on time.	3.66	A
I finish my assigned task on time to avoid delays in our group submission.	3.48	SA
I feel happy if I contribute a lot of ideas that make our group accomplish a difficult task.	3.45	SA
I always ask my groupmates anything I could help even if I have already done my part.	3.34	SA
I feel guilty and frustrated if I cannot contribute anything to the group.	3.19	A
I always allocate time for group meetings and group work.	3.43	SA
I'm not too fond of the idea of being a free-rider; thus, I always make sure to share my insights with my group.	3.55	SA
General Weighted Mean	3.42	SA

Legend: 4- Strongly Agree 2- Disagree 3- Agree 1- Strongly Disagree

Table 14 displays the results of the students' perception in the use of Online Collaborative Learning-based Module in Araling Panlipunan through Individual Accountability. Each criterion item displays its *WD* or

Weighted Mean and *VD* or *Verbal Description*. Seven criterion items got a rating of 4 or its equivalent level of agreement of *Strongly Agree*. Only item number four got a weighted mean of 3.24 with its equivalent verbal description of *Agree*.

Students' perceptions in answering the post-test through Individual Accountability have positive and favorable responses. There are factors needed to consider such as feeling of being a group member, trusting other group members and pursuing common goals (Forslund Frykedal & Hammar Chiriac, 2018), responsibility to fulfill, time to allocate and ideas to share.

Thus, learners should value the importance of Individual Accountability especially when they are involved in group tasks and are assigned to do some roles. It provides a manner of working with people that respects and recognizes individual group members' strengths and contributions in all situations where individuals come together in groups. The members of the group share authority and accept accountability for the actions of the group. Collaborative learning's core principle is consensus-building through group cooperation, as opposed to competition in which individuals outperform other group members (Marjan et al., 2012).

3. SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

The findings, conclusion, and recommendations are presented in this chapter based on the data interpreted in the previous chapter.

SUMMARY OF FINDINGS

Based on the sub-problems raised, the findings below are attained:

After evaluating the pre-test scores of Grade 10 students exposed to the Online Individual Learning-Based Module as control group and to the Online Collaborative Learning-based module as Experimental group in the following third quarter topics and Most Essential Learning Competencies (MELCs), most of the students' academic per learning competency were categorized as *Satisfactory* or *S*, *Very Satisfactory* or *VS* and *Outstanding* or *O* per learning competency.

After evaluating the post-test scores of Grade 10 students from the control group and the experimental group based on the Most Essential Learning Competencies (MELCs), most of the students' academic per learning competency were categorized as *Very Satisfactory* or *VS* and *Outstanding* or *O* per learning competency.

There is a significant difference in the pre-test and post-test scores of students from the control and experimental groups based on the MELCs.

There is a significant gain difference between the post-test scores of students of the control and experimental groups based on the Most Essential Learning Competencies (MELCs).

The students' learning experiences in the use of Online Collaborative Learning-Based Module based on the three characteristics namely: Social Interaction, Teamwork, and Individual Accountability are favorable and agreeable to the Grade 10 students. Most of them strongly agreed their learning

experiences based on the criterion items presented. Thus, these three characteristics form a vital role in doing classroom collaborative or grouped activities.

CONCLUSION

The study hereby concludes that students performed better in the third quarter Most Essential Learning Competencies in Araling Panlipunan 10 when they were assigned and given group work rather than doing them individually. Hence, to nurture outstanding students' learning performance and outcome, an enhanced Online Collaborative Learning-Based Module would be crafted to develop self-directed and simplified instruction. This enhanced module could be useful in learning the subject especially to students enrolled under Online Learning and/or Digital Modular Learning Modality.

RECOMMENDATIONS

This study does not intend to replace another Self-Learning Module that DepEd has already been crafted. Instead, this study revealed that Online Collaborative Learning-Based Module may be one of the learning resource materials that could be of great help and use especially to students enrolled under the modality of Online Learning and/or Digital Modular Learning. Based on the results and conclusion, the following recommendations are hereby presented:

1. The Enhanced Online Collaborative Learning-Based Module of this study can be used in succeeding school years specifically in the third quarter of Grade 9. This enhanced module will help the learners engage in learning and will be motivated to work and participate through the collaborative learning activities despite the adjustments in the new normal education.
2. In implementing the enhanced module with the online collaborative activities in the Online Learning and/or Digital Modular Learning Modality, the teachers must ensure that rubric and criteria will serve as a guide for the learners.

Teachers must also group students randomly or by not mixing the smart learners from the slow ones. They must also gather feedback and progress from the group in terms of cooperation, participation, and fair students' work contribution.

3. Since the students performed well through grouped activities rather than individual, it is recommended that the teachers will craft appropriate online grouped or collaborative activities that will also meet the Most Essential Learning Competencies (MELCs).
4. Since the identified Grade 10 students obtained higher scores in the group activities such as group video presentation, online reporting, broadcasting, and debate, then these activities are recommended to use in the succeeding school years to help the students achieve a better academic performance.
5. Based on the students' learning experiences through the three characteristics, grouped or collaborative learning activities are recommended especially to the students who are under Online Learning or Digital Modular Learning Modality. In this way, students could not only excel in their academic performance but also could learn how to be more interactive, cooperative, participative, and accountable in terms of accomplishing the learning tasks with their team.

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